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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/773,266	02/09/2004	Chi-Cheng Ju	3722-0176P	8567
2292	7590	03/22/2005	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			HSU, JONI	
			ART UNIT	PAPER NUMBER
			2676	

DATE MAILED: 03/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/773,266

Applicant(s)

JU ET AL.

Examiner

Joni Hsu

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>2/9/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract of the disclosure is objected to because it is 163 words in length and therefore exceeds 150 words. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not support

any detail how the first number of storage areas can be different from the second number of storage areas. The specific details of how the data is to be divided up, addressed, and stored in such a way as to be stored in a different number of first and second storage areas needs to be explained in more detail.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-4, 6-8, and 10-12 are rejected under 35 U.S.C. 102(b) as being anticipated by Vinekar (US005581310A).

6. With regard to Claim 1, Vinekar describes a method of storing an array of digital data into a memory having a plurality of memory pages, each memory page having a first memory section and a second memory section, the method comprising the steps of dividing the array of digital data into a plurality of block units, each of the block units having a plurality of odd rows and a plurality of even rows, each of the odd rows and the even rows having at least one byte (Col. 9, lines 52-56); storing subsequent odd rows of at least one of the block units into consecutive storage locations in the first memory section, and storing subsequent even rows of at

least one of the block units into consecutive storage locations in the second memory section (Col. 12, line 46-Col. 13, line 11; Figures 8, 9).

7. With regard to Claim 2, Vinekar describes that the array of digital data comprises a picture in a video bit stream (Col. 2, lines 48-52).

8. With regard to Claim 3, Vinekar describes that the first memory section has a first number of first areas and the second memory section has a second number of second areas, each of the first areas and the second areas has consecutive storage locations, each of the first number and the second number is equal to or larger than one (Col. 12, line 46-Col. 13, line 11; Figures 8, 9).

9. With regard to Claim 4, Vinekar shows in Figures 8 and 9 that both the first memory section and the second memory section have four areas of consecutive storage locations labeled A-D. Therefore, Vinekar describes that the first number is equal to the second number (Col. 12, line 46-Col. 13, line 11; Figures 8, 9).

10. With regard to Claim 6, Vinekar shows in Figures 8 and 9 that both the first number and the second number have a value of 4 (Col. 12, line 46-Col. 13, line 11; Figures 8, 9). However, Vinekar describes that the memory can have either 1, 2, 4, or 8 contiguous or consecutive memory locations (Col. 3, lines 61-67). Therefore, Vinekar describes that both the first number and the second number have a value of one.

11. With regard to Claim 7, Vinekar shows in Figures 8 and 9 that both the first number and the second number have a value of 4 (Col. 12, line 46-Col. 13, line 11; Figures 8, 9). However, Vinekar describes that the memory can have either 1, 2, 4, or 8 contiguous or consecutive memory locations (Col. 3, lines 61-67). Therefore, Vinekar describes that both the first number and the second number have a value of two.

12. With regard to Claim 8, Vinekar describes that each of the block units has m rows (Col. 4, lines 49-51), wherein m is an integer equal to or larger than four (Col. 5, lines 10-12).

13. With regard to Claim 10, Claim 10 is similar in scope to Claims 1 and 2, and therefore is rejected under the same rationale.

14. With regard to Claim 11, Claim 11 is similar in scope to Claim 3, and therefore is rejected under the same rationale.

15. With regard to Claim 12, Claim 12 is similar in scope to Claim 8, and therefore is rejected under the same rationale.

16. Thus, it reasonably appears that Vinekar describes or discloses every element of Claims 1-4, 6-8, and 10-12 and therefore anticipates the claims subject.

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

18. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

19. Claims 9 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vinekar (US005581310A) in view of McGuinness (US006104416A).

20. With regard to Claim 9, Vinekar is relied upon for the teachings as discussed above relative to Claim 8.

However, Vinekar does not teach that m is equal to thirty-two. However, McGuinness describes a method of storing an array of digital data into a memory, the memory having a plurality of memory tiles, each memory tile having a first memory section (532, Figure 8) and a second memory section (534), the method comprising the steps of dividing the array of digital

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data into a plurality of block units, each of the block units having a plurality of odd rows and a plurality of even rows, storing subsequent odd rows of at least one of the block units into storage locations in the first memory section, and storing subsequent even rows of at least one of the block units into storage locations in the second memory section (Col. 11, line 51-Col. 12, line 13); wherein each of the block units has thirty-two rows (Col. 10, lines 43-53).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Vinekar so that m is equal to thirty-two as suggested by McGuinness because McGuinness suggests that the block units can have any number of rows, as long as when the block unit is stored right after the block unit immediately to its left the pixels in one row of the picture are close enough to be retrieved in a reasonable number of bursts in page mode such that the FIFO that stores the pixels to be sent to the screen can be filled quicker than the pixels in the FIFO that need to be sent to the screen. Increasing the number rows in each block unit increases the efficiency of the decoding of the macroblock, and reducing the number of rows in each block unit increases the efficiency of the rasterization (Col. 10, lines 43-56)

21. With regard to Claim 13, Claim 13 is similar in scope to Claim 1, except for the addition of retrieving a prediction block of picture from the memory, retrieving the digital data representing the prediction block stored in the first memory section, and retrieving the digital data representing the prediction block stored in the second memory section. Vinekar is relied upon for the teachings as discussed above relative to Claim 1.

However, Vinekar does not teach retrieving a prediction block of picture from the memory, retrieving the digital data representing the prediction block stored in the first memory

section, and retrieving the digital data representing the prediction block stored in the second memory section. However, McGuinness describes retrieving a prediction block of picture from the memory, retrieving the digital data representing the prediction block stored in the first memory section (532, Figure 8), and retrieving the digital data representing the prediction block stored in the second memory section (534) (Col. 7, lines 64-67; Col. 11, line 51-Col. 12, line 32).

It would have been obvious to one of ordinary skill in this art at the time of invention by applicant to modify the device of Vinekar to include retrieving a prediction block of picture from the memory, retrieving the digital data representing the prediction block stored in the first memory section, and retrieving the digital data representing the prediction block stored in the second memory section as suggested by McGuinness because McGuinness suggests that this is needed for motion compensation. McGuinness describes that in scenes with moving objects, block based motion compensated prediction, based on macroblocks, is used. For each macroblock in a picture, the best matching block in the previous picture, (called the prediction block) is found, and the resultant macroblock prediction error is then encoded. The motion vectors between the current macroblock and the prediction block are also transmitted in interpicture coding that uses motion compensation. The motion vectors describe how far, and in what direction, the macroblock has moved compared to the prediction block. The best matching block, the prediction block in the previous picture and the best matching block, the prediction block in the future picture is found, and averaged. This may then be summed with a set of decoded error terms of the block data structures of the macroblock to produce the macroblock in the current picture. This entire process is referred to as motion compensation (Col. 2, line 55-Col. 3, line 7).

22. With regard to Claim 14, Claim 14 is similar in scope to Claim 3, and therefore is rejected under the same rationale.

23. With regard to Claim 15, Claim 15 is similar in scope to Claim 8, and therefore is rejected under the same rationale.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joni Hsu whose telephone number is 571-272-7785. The examiner can normally be reached on M-F 8am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew C. Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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